AMENDMENTS TO THE CLAIMS

This listing of claims provided below will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

Please amend the claims as follows:

1. (Withdrawn) A method of determining the presence or amount of newly synthesized antibodies contained within lymphocytes comprising:

obtaining a sample containing lymphocytes from an animal;

disrupting the lymphocytes to release the antibodies or parts thereof; and

determining the presence or amount of the antibodies or parts thereof in the sample.

2. (Withdrawn) The method of claim 1, wherein the sample lymph or blood.

3. (Withdrawn) The method of claim 1, wherein the lymphocytes are disrupted by physical disruption or by contacting the lymphocytes with a cell-disrupting buffer or solution.

4. (Withdrawn) The method of claim 1, wherein the presence or amount of the released antibodies or parts thereof are determined by binding the released antibodies or parts thereof to one or more antigens which recognize the released antibodies or parts thereof.

5. (Withdrawn) The method of claim 1, wherein the presence or amount of the released antibodies or parts thereof are detected by a solid phase binding assay.

6. (Withdrawn) The method of claim 5, wherein the solid phase binding assay uses a solid support comprising one or more solid phase antigens that are

recognized by the antibodies or parts thereof.

7. (Withdrawn) The method of claim 5, wherein the solid phase binding assay uses a solid support comprising one or more solid phase antibodies which recognize the antibodies or parts thereof.

8. (Withdrawn) The method of claim 1, wherein the sample is neonate or infant blood and the method is used to detect antibodies or parts thereof synthesized by the animal.

9. (Withdrawn) The method of claim 1, further comprising storing the sample at a temperature of about 4 °C before the lymphocytes are disrupted, or after the lymphocytes are disrupted but prior to determining the presence or amount of the antibodies or parts thereof.

10. (Withdrawn) The method of claim 2, wherein the sample has a volume of less than 1 ml.

11. (Withdrawn) The method of claim 1, further comprising isolating the lymphocytes from the sample before they are disrupted.

12. (Withdrawn) The method of claim 1, wherein determining the presence or amount of antibodies or parts thereof is performed by immunoassay.

13. (Withdrawn) The method of claim 12, wherein the immunoassay is ELISA.

14. (Withdrawn) The method of claim 1, wherein the presence or amount of the antibodies is determined by contacting the antibodies or parts thereof with a compound to produce a product that yields a spectrophotometrically detectable signal.

15. (Withdrawn) The method of claim 4, further comprising testing the sample of disrupted lymphocytes with one or more negative control antigens.

16. (Withdrawn) The method of claim 5, wherein the solid phase binding assay uses more than one solid phase and each solid phase is used to determine the presence or amount of different antigens or parts thereof.

17. (Withdrawn) A method of diagnosing or monitoring infection in an animal caused by an immunogen comprising:

obtaining a sample containing lymphocytes from the animal;

determining the presence or amount of antibodies or parts thereof formed in the sample that are in response to the immunogen and associated with the lymphocytes;

determining the amount of antibodies or parts thereof present in the sample; and

comparing the amount of antibodies or parts thereof in the sample to a control or reference sample comprising a known amount of antibody to determine the presence or extent of infection by the immunogen.

18. (Withdrawn) The method of claim 1, wherein the immunogen is a bacterial or viral antigen.

19. (Withdrawn) The method of claim 18, wherein the antigen is derived from a virus selected from Herpes Simplex virus; Cytomegalovirus, human immunodeficiency virus, Hepatitis viruses, Toxoplasma, and Epstein-Barr virus.

20. (Withdrawn) A method of determining the presence or amount of infection indicators in a sample, said infection indicators formed in response to an immunogen, comprising:

obtaining a sample containing lymphocytes;

disrupting the lymphocytes to release the infection indicators; and

detecting the released infection indicators to determine the presence or

amount of 10 infection indicators in the sample.

21. (Previously Presented) A method of determining the presence or amount of newly synthesized antibody in a body fluid sample or a sample derived from lymph nodes or nodules in response to an immunogen comprising:

detecting the released target antibodies or parts thereof in a sample containing lymphocytes which have been disrupted, whereby to release the synthesized antibodies or parts thereof associated with said lymphocytes, whereby to determine the presence or amount of newly synthesized antibody in said sample.

22. (Previously Presented) The method as claimed in claim 21 comprising the steps of:

(i) obtaining the sample containing lymphocytes;

(ii) disrupting said lymphocytes whereby to release antibodies or parts thereof associated with said lymphocytes; and

(iii) detecting the released target antibodies or parts thereof, whereby to determine the presence or amount of newly synthesized antibody in said sample.

23. (Previously Presented) The method as claimed in claim 21 or 22, wherein said sample is lymph or blood.

24. (Previously Presented) The method of claim 23, wherein said sample is peripheral blood.

25. (Previously Presented) The method as claimed in claim 21 or 22, wherein the sample is not incubated to promote synthesis and/or secretion of antibodies prior to the method.

26. (Previously Presented) The method as claimed in claim 21 or 22, wherein

the lymphocytes are disrupted by using physical disruption means or cell-disrupting buffers or solutions.

27. (Previously Presented) The method as claimed in claim 21 or 22, wherein the target antibodies or parts thereof are detected by binding to one or more antigens which recognize said antibodies or parts thereof.

28. (Previously Presented) The method as claimed in claim 21 or 22, wherein the released target antibodies are detected by means of a solid phase binding assay.

29. (Previously Presented) The method of claim 28, wherein said solid phase carries one or more antigens recognized by the target antibody or antibodies or parts thereof to be detected.

30. (Canceled)

31. (Previously Presented) The method of claim 28, wherein said solid phase carries one or more antibodies, which recognize the target antibody or target antibodies or parts thereof to be detected.

32. (Previously Presented) The method as claimed in claim 21 or 22, wherein the method is performed on neonate or infant blood samples for distinguishing between newly synthesized antibodies and passively transferred maternal antibodies.

33. (Previously Presented) The method as claimed in claim 21 or 22, wherein prior to disrupting the lymphocytes, or after disruption but prior to the detection step, said sample is stored at about 4 °C or less.

34. (Previously Presented) The method of claim 23, wherein said blood

sample for use in the method, or for preparing lymphocytes for use in the method, has a volume of less than 1 ml.

35. (Previously Presented) The method as claimed in claim 21 or 22, wherein lymphocytes directly isolated from said sample are used in the method.

36. (Previously Presented) The method as claimed in claim 21 or 22, wherein the detecting step is performed by immunoassay.

37. (Previously Presented) The method of claim 36, wherein the immunoassay is ELISA.

38. (Currently Amended) The method ~~of claim 37~~ of claim 29, wherein one or more antigens, recognized by the target antibodies immobilized on said solid phase, are contacted with said solid phase.

39. (Currently Amended) The method ~~of claim 37~~ of claim 31, wherein one or more antibodies, which recognize target antibodies immobilized on said solid phase, are contacted with said solid phase.

40. (Previously Presented) The method as claimed in claim 21 or 22, wherein a soluble substrate is used for the detection step and yields a spectrophotometrically detectable signal.

41. (Previously Presented) The method as claimed in claim 21 or 22, wherein a negative control antigen is used.

42. (Previously Presented) The method of claim 28, wherein multiple solid phases are employed each bearing a different target antigen.

43. (Previously Presented) A method of diagnosing or monitoring infection of a human or non-human animal or a part of said animal by an immunogen, wherein said method comprises obtaining a lymphocyte-containing sample from said animal, determining the presence or amount of newly synthesized antibodies or parts thereof associated with said lymphocytes directed to said immunogen according to the method as claimed in claim 21 or 22 and determining the presence or extent of infection by said immunogen by reference to appropriate control and/or reference samples.

44. (Previously Presented) The method as claimed in claim 21 or 22, wherein said immunogen is a bacterial or viral antigen and diagnosis or monitoring of infection by the source bacterium or virus is determined.

45. (Previously Presented) The method of claim 43, wherein said antigen is derived from a virus selected from the list consisting of Herpes Simplex virus, Cytomegalovirus, human immunodeficiency virus (HIV) and any of the Hepatitis viruses as well as Toxoplasma and Epstein-Barr virus (EBV).

46. (Withdrawn) The method of determining the presence or amount of infection indicators in a sample in response to an immunogen comprising:

obtaining a sample containing lymphocytes; disrupting said lymphocytes whereby to release the infection indicators to be detected; and detecting the released infection indicators whereby to determine the presence or amount of infection indicators in said sample, according to the method as claimed in claim 21 or 22.